

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**FILED**

**MAR 08 2001**

IN THE MATTER OF THE PETITION OF INDIANA )  
BELL TELEPHONE COMPANY, INCORPORATED, )  
D/B/A AMERITECH INDIANA PURSUANT TO )  
I.C. 8-1-2-61 FOR A THREE-PHASE PROCESS )  
FOR COMMISSION REVIEW OF VARIOUS )  
SUBMISSIONS OF AMERITECH INDIANA TO )  
SHOW COMPLIANCE WITH SECTION 271(C) OF )  
THE TELECOMMUNICATIONS ACT OF 1996 )

INDIANA UTILITY REGULATORY COMMISSION

CAUSE NO. 41657

**AMERITECH'S PERFORMANCE REMEDY PLAN BRIEF ON EXCEPTIONS**

Pursuant to the Commission's Order dated November 9, 2000, Indiana Bell Telephone Company Incorporated d/b/a Ameritech Indiana ("Ameritech"), by counsel, respectfully submits its brief on exceptions in the above-captioned proceeding.

In its opening comments, Ameritech described its plan for a system of automatic, self-executing remedies to enforce the performance measurements and standards previously approved by this Commission. Ameritech demonstrated that its proposal addressed all 44 of the Commission's principles and all of the FCC's criteria for an effective plan – indeed, Ameritech's proposal is virtually identical to plans that the FCC has already approved for use by Ameritech's affiliates in Texas, Kansas, and Oklahoma. In this brief, Ameritech describes the principal differences between its plan and the competing proposals submitted by the CLECs<sup>1</sup> and by Z-Tel, and demonstrates that the Ameritech plan is the only one before the Commission that meets the principles announced by the Commission and the dictates of the Telecommunications Act of 1996 ("1996 Act").

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<sup>1</sup> AT&T Communications of Indiana, Inc., TCG Indianapolis, MCIWorldCom, McLeodUSA, Rhythms and Time Warner Telecom.

I. Ameritech's plan is *meaningful*, because it is designed to assess remedies only where poor performance really has occurred. By contrast, the CLEC and Z-Tel plans are designed to make Ameritech pay money where poor performance has *not* occurred. It is not surprising that these parties would prefer a plan that gives them money for no reason (other than random error, or even a CLEC's own efforts to game the system), but their proposals do not have a meaningful impact on performance and do not benefit the market.

II. Ameritech's plan is also meaningful in that the amount of remedies reflects the importance of the applicable measure and the volume of customers affected. The CLEC and Z-Tel plans do not – instead, they use arbitrary “multipliers” that merely compound the error of the arbitrary remedies assessed.

III. Ameritech's plan is *practical*, or to use the FCC's words, it provides a “reasonable structure that is designed to detect and sanction poor performance when it occurs.” It has been tested and approved by the FCC, and by state commissions in Texas, Kansas and Oklahoma. It has been implemented and demonstrated to work in practice, and it has been demonstrated to work in conjunction with performance measures that are almost identical to those in Indiana. In fact, it is already working today, in Indiana and throughout the SBC and Ameritech operating regions, pursuant to the FCC's merger conditions. The competing plans, meanwhile, have absolutely no track record. They contain numerous gaps – undefined terms that defy implementation in the real world – and assumptions that have no basis other than their proponent's say-so.

IV. Ameritech's plan is consistent with the 1996 Act, the ultimate source of the obligations the plan is designed to enforce. Consistent with the Act's fundamental tenet of

nondiscrimination, Ameritech's plan uses nondiscrimination or "parity" as the standard for wholesale performance where a retail analog exists. The opposing plans, meanwhile, seek to impose an absolute benchmark or "floor" on performance, over and above the parity test. That plan would drive Ameritech to give CLECs superior quality, not just parity, and would thus violate the 1996 Act and disadvantage Ameritech's retail customers.

No doubt the CLECs and Z-Tel will make similar claims on behalf of their own plans. Thus, the important thing for the Commission to keep in mind throughout this proceeding is this: Ameritech's claims have been thoroughly tested and verified by state commissions and by the FCC – several times. The claims of Z-Tel and the CLECs, meanwhile, are just that: claims. Their assertions have not been verified, and their plans have not been approved by any authority, anywhere, for any purpose.

## **BACKGROUND**

### **I. Operations Support Systems ("OSS") and Performance Measures**

Operations support systems ("OSS") are the electronic systems, information, and personnel that Ameritech uses to serve its customers. OSS serve five principal functions: pre-ordering, ordering, provisioning, repair and maintenance, and billing.

The FCC has held that incumbent local exchange carriers like Ameritech must make their systems, information, and personnel available to requesting carriers on a nondiscriminatory basis, so that those competitors may use the incumbent's OSS to support their own efforts. The FCC takes a two-step approach to analyzing compliance with this requirement. The first is to determine whether the BOC has made its OSS available to requesting carriers. The second step is to evaluate whether those OSS really work, in a nondiscriminatory fashion — in other words,

“whether the OSS functions that the BOC has deployed are operationally ready, as a practical matter.” *In re Application by SBC Communications Inc. et al. to Provide In-Region, InterLATA Services in Texas*, CC Docket No. 00-65, ¶ 96 (June 30, 2000) (“Texas 271 Order”). In assessing the latter criterion, operational readiness, the FCC strongly prefers evidence of actual commercial use, which it deems “[t]he most probative evidence that OSS functions are operationally ready.” *Id.* ¶ 98.

The principal form of evidence of commercial use is *performance measures*: data that summarize the results of certain aspects of wholesale and retail operations (such as the time required to install service) for a reporting period (typically, each month). Performance data are generally broken down, or disaggregated, into separate measurement categories for each applicable product or service (*e.g.*, resale, unbundled loops), customer type (*e.g.*, residential, business), and certain other characteristics (*e.g.*, whether or not the order requires the “dispatch” of field personnel) to provide a more meaningful comparison.

These performance measures are typically compared against standards, or target levels. Many wholesale functions correspond to an analogous function in Ameritech’s retail operations. In those cases, the retail outcome is the standard level for wholesale performance in that reporting period. In other cases, a pre-set “benchmark” has been established based on the collaborative process devised by the Commission in Cause No. 41657, which relied upon the combined input of Ameritech, competing carriers, and this Commission.

Performance measures are an important factor in opening local markets to competition, as the FCC acknowledged in its recent landmark order approving Bell Atlantic’s application for long distance relief in New York. *In re Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the*

*State of New York*, CC Docket No. 99-295, ¶ 8 (Mem. Op. and Order, Dec. 22, 1999) (“*New York 271 Order*”). As the FCC observed, Bell Atlantic’s “development of clearly defined performance measures and standards” was “particularly important to the success of this process in opening local markets to competition consistent with the terms of the 1996 Act.” *Id.* The FCC also pointed out that “the fact that a BOC will be subject to performance monitoring and enforcement mechanisms would constitute probative evidence that the BOC will continue to meet its section 271 obligations and that its entry would be consistent with the public interest.” *Id.* ¶ 429.

Similarly, in approving the application of Ameritech’s affiliate, Southwestern Bell Telephone Company, for long-distance relief in Texas, the FCC observed that “[p]erformance measurements are an especially effective means of providing us with evidence of the quality and timeliness of the access provided by a BOC to requesting carriers,” *Texas 271 Order*, ¶ 53. The FCC expressly approved the “clearly defined performance measurements and standards” developed by the Texas Public Utilities Commission and used by Southwestern Bell to demonstrate its compliance with the competitive checklist. *Id.* ¶ 5.

Ameritech uses the same performance measurements and standards that were developed in Texas and approved by the FCC, with adaptations (and several additional measurements) developed by the Commission’s Staff, Ameritech and competing carriers in collaborative workshops overseen and approved by this Commission. In the December 27, 2000 Joint Petition to Adopt Baseline Performance Measures (“Joint Petition”), the Joint Petitioners presented the measures developed in Texas and modified in the Indiana collaborative to this Commission for approval. As a result of the Joint Petition, Ameritech’s performance measurement plan consists of over 160 “baseline” performance measurements. Consistent with

the *Texas 271 Order* (§ 94) Ameritech's performance measurements address "each of the three modes of competitive entry envisioned by the 1996 Act — competitor-owned facilities, unbundled network elements, and resale" along with several other items in the competitive checklist of section 271.

## **II. Performance Assurance Plans**

Ameritech's performance measures are part of a broader "performance assurance plan." The intent of that plan is to provide a meaningful incentive for Ameritech to meet its performance benchmarks. The purpose of this phase of the proceeding is to establish one facet of that plan: a system of self-executing remedies to be paid by Ameritech to competing carriers in the event its performance fails to meet the established benchmarks.

We described Ameritech's proposal for a remedy system in our initial comments, and below we focus on its advantages over the separate proposals advanced by CLECs and by Z-Tel. Before proceeding, however, it is important to remember that the remedy system is just one piece of Ameritech's overall performance assurance plan. There are several others:

- Perhaps most importantly, Ameritech's desire to enter and remain in the long-distance market under section 271 of the Act creates an incentive to meet performance benchmarks;
- Moreover, the FCC's conditions for approval of the SBC-Ameritech merger establish a system of payments to the U.S. Treasury for performance shortfalls, which takes effect 270 days after the merger closing date (that is, with September 2000 data).
- CLECs retain the right to address persistent or egregious performance shortfalls by filing complaints before this Commission or the FCC.

Section 6.1 of Ameritech's remedy proposal specifically provides that "the application of the assessments and damages provided for herein is not intended to foreclose other noncontractual legal and regulatory claims and remedies that may be available to a CLEC."

## **ARGUMENT**

### **I. To Be Meaningful, A Remedy Plan Should Only Assess Remedies When Poor Performance Occurs.**

In the FCC's words, remedies should provide "a meaningful and significant incentive to comply with the designated performance standards" and a remedy plan should provide "a reasonable structure that is designed to detect and sanction poor performance when it occurs." *New York 271 Order*, ¶ 433. The critical point here is that remedies should sanction poor performance *only* "when it occurs." To be meaningful, remedies should be assessed only where they are deserved – where Ameritech really fails to meet the applicable performance standard. Payments of money based on random chance, rather than the harm they are supposed to redress or the behavior they are supposed to influence, are not meaningful. They are not even remedies. They are just payments of money: penalties (to Ameritech) or subsidies (to the CLEC).

All of the parties recognize the problem of random variation. Indeed, Z-Tel's Mr. Ford frankly acknowledges that "repair intervals (or any other service) vary from event to event. The average repair interval may be 24 hours, but many customers will get repair in less than 24 hours and some in more than 24 hours." Z-Tel Submission, at 7. But Ameritech's proposal is the only one that really addresses the problem, by using accepted statistical methodologies that have been approved by CLECs, state commissions, and the FCC. The CLEC proposal also uses a statistical methodology -- but one designed with a built-in error rate of up to 40 percent: in other words, up to two out of every five remedies will be undeserved. Z-Tel, meanwhile, tries a non-statistical approach, but the only result is a non-solution. Instead of addressing the random variation

among individual transactions, Z-Tel assigns them to arbitrary “zones” and penalizes Ameritech when the data do not fall into those zones – even if the failure to meet Z-Tel’s prescribed pattern is not due to discrimination but to random chance. Thus, the CLEC and Z-Tel plans virtually guarantee that Ameritech will pay penalties even if it does not discriminate. They are designed to punish compliance rather than promote it.

**A. Ameritech’s Plan Is Designed To Assess Remedies Only Where Poor Performance Has Occurred.**

Ameritech’s remedy plan reflects two basic principles. The first is reality. Measuring performance is like measuring just about everything else in the real world. Over a long period of time, and a large number of observations, things tend to work out on average. But when you narrow the view to a single product or service, for a single carrier, for a single month – the way performance measures do – random variations in data can throw a transaction or group of transactions off the average even though nothing wrong has happened. Coin flips do not always go “heads, tails, heads, tails . . .” and dice rolls do not always go “1, 2, 3, 4, 5, 6,” even if the coin is perfectly balanced or the die is perfectly fair. No single family in America has exactly 2.4 children. And, as Z-Tel itself observes (at 7), service repairs do not always go “24 hours, 24 hours, 24 hours . . . .”

The second principle is fairness. The goal of a remedy plan is to influence behavior in a positive way. Punishing Ameritech for random chance does not affect its behavior, because random chance bears no relation to behavior. Ameritech should pay a remedy only where there is real discrimination, not where random chance creates a false appearance of discrimination. After all, the parties’ remedy proposals go only one way: Ameritech would pay a remedy if wholesale performance falls below the applicable standard, but it does not get anything back if wholesale performance exceeds standard. Thus, even though random blips in performance data



go both ways (and should even out over the long haul), erroneous remedy payments go only one way and never cancel out. The only fair approach is to avoid erroneous payments in the first place.

Statistical analysis is the accepted method to understand and account for random variations that occur in the real world, and thus to reduce the risk of unfair payments. In reality, an apparent shortfall in performance does not, in and of itself, indicate discrimination. Thus, an apparent shortfall in performance should not, in and of itself, result in a remedy payment. Statistical science provides methods of looking at the size of the shortfall (and the rate of shortfalls in other areas) that allow one to figure out how likely it is due to random chance, or instead due to some difference in behavior, *i.e.* discrimination. These methods are merely scientific applications of basic common sense: If retail repairs take 24 hours, one is more likely to find discrimination if wholesale repairs take 240 hours than if wholesale repairs take 24,001 hours. Similarly, one is more likely to find discrimination if *all* performance measures are off than if only one of thousands appears to fail the standard.

Of the three plans before the Commission, only one employs an objective, accepted methodology: Ameritech's plan. Why is Ameritech's plan objective? Because the defining features of its statistical methodology do not come from Ameritech alone. They were originated by *CLECs*, in collaborative proceedings, agreed to by incumbent LECs (including Ameritech and its affiliates) and approved by state commissions and the FCC. Such consensus was achieved because the basic principles of Ameritech's plan are well accepted in the scientific community.

1. Ameritech's plan applies a standard z-test or the modified z-test developed by the Local Competition Users' Group (a consortium that includes AT&T and WorldCom's predecessor MCI) for sample sizes of 30 or more, coupled with "permutation" tests for samples

under 30). The FCC approved these methods as “reasonable tests for statistical significance” in its *New York 271 Order* (App. B, ¶ 13), approved them again when it endorsed the remedy plan used by SWBT in Texas, and yet again when it endorsed SWBT’s similar plans for Kansas and Oklahoma.

2. These statistical tests would be designed to achieve 95 percent confidence: in other words, an apparent shortfall in performance is considered “statistically significant” if the odds are 95 percent that it is caused by behavior rather than random chance. AT&T itself endorsed the 95 percent confidence level in the FCC’s rulemaking on performance.<sup>2</sup> And the FCC approved it in its *New York 271 Order* (App. B, ¶ 17), as “a commonly used standard” that “gives us a reasonable likelihood of detecting variations in performance not due to random chance, with few false conclusions that variations are not due to random chance.”

3. To address the remaining 5 percent error rate, Ameritech’s plan uses a “K table” that specifies the number of times that apparent shortfalls in performance will be excused as random fluctuations, without need for a penalty. The principle is the same simple one described above: A small number of shortfalls are likely to be the product of random chance, while a large number of shortfalls is more likely to be the product of behavior. The “K” value was initially developed by MCI (which proposed it in collaborative proceedings supervised by the Texas commission) and by AT&T (whose statistical expert, Dr. Colin Mallows, advocated the

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<sup>2</sup> Affidavit of Dr. Colin L. Mallows, Before the Federal Communications Commission, Washington, D.C., 20554, CC Docket No. 98-56, RM-9101, p. 5.

methodology in an affidavit before the FCC).<sup>3</sup> The FCC approved this methodology when it approved the remedy plans used by SWBT in Texas, Kansas, and Oklahoma.

Ameritech's statistical methodology is also conservative, in that it will still identify and calculate remedies for some apparent performance shortfalls that are not the product of discrimination. Statistical tests are designed to locate differences in performance that are *statistically* significant, at a raw numerical level. In some of those cases, Ameritech may show that the difference is actually attributable to CLEC error or to other circumstances for which Ameritech was not responsible, rather than to discrimination. Other differences, while numerically significant, might not be material to competition and thus not sufficient to affect compliance with the Act's nondiscrimination requirements. As the FCC explained in its *New York 271 Order* (§ 59):

To the extent there is any statistically significant difference between Bell Atlantic's provision of service to competitive LECs and retail customers or an apparent difference between its provision of service to competitive carriers and the performance benchmarks set by the New York Commission, we will examine the evidence further to make a determination whether the statutory nondiscrimination requirements are met. Thus, we will examine the explanation that Bell Atlantic and other commenters provide about whether these differences provide an accurate depiction of the quality of Bell Atlantic's performance. For instance, we may examine the data on a more disaggregated level, in order to evaluate arguments made by Bell Atlantic that competitive LEC error, or differences in the composition of competitive LEC orders, or sudden changes in the quantity or timing of orders made by competitive LECs, are responsible for the apparent poor performance. \* \* \* Finally, in some instances, we may find that statistically significant differences in measured performance may exist, but that such differences have little or no competitive significance in the marketplace. As such, we may deem such differences non-cognizable under the statutory standard.

Thus, Ameritech's tests are slanted *against* a passing grade, and some apparent "failures" will prove – once investigated and placed in context – to be incorrect or immaterial. Ameritech

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<sup>3</sup> Affidavit of Dr. Colin L. Mallows, Before the Federal Communications Commission, Washington, D.C. 20554, CC Docket No. 98-56, RM-9101, p. 28.

recognizes that this is necessary given the limitations of numerical analysis, and understands that it may have to produce further qualitative proof of compliance to explain or overcome the results of the statistical test. Thus, it establishes a limited “fail-safe” procedure pursuant to which the Commission can waive remedies if the underlying performance shortfall has been caused by the CLEC, an Act of God, or a similar uncontrollable event. The procedure is intended to be used sparingly; to date, none of the SBC operating companies has invoked it.

**B. The CLEC Plan Is Designed To Penalize Ameritech For Random Variation, Even Where Poor Performance Has Not Occurred.**

The CLECs recognize the need for statistical analysis to address random variation, and their plan includes a statistical model. But they only use statistical analysis for *some* measures (those assessed for parity), leaving the rest (those assessed against a benchmark) to the whims of random chance. Moreover, even where their plan calls for statistical testing, their methods are purposely designed to generate unwarranted remedies. In particular, because the CLECs’ proposed methodology is inappropriate for small sample sizes (of less than 30 transactions) the rate of erroneous remedies in such cases (which are likely to be common given the vast number of measurement categories) is estimated as high as 40 percent.

**1. The CLECs’ “Balancing” Scheme Merely Increases The Risk That Remedies Will Be Imposed In Error.**

As described above, Ameritech’s plan uses statistical tests designed to assess compliance at a 95 percent confidence level: that is, an average of 5 percent of tests will show discrimination even where there is none. Such “false failures” are called Type I errors. By contrast, the CLECs’ statistical methods would increase the Type I error rate to as much as 40 percent – resulting, as one might expect, in a larger likelihood that CLECs will receive remedy payments they do not deserve. Not content, the CLECs also seek to penalize Ameritech where

observed performance results *meet* the nondiscrimination standard, on the theory that real performance was deficient and the observed performance passed the parity test only because of random variations. (Such “false passes” are described as “Type II” errors.)

The professed goal of the CLEC scheme is to balance Type I and Type II errors. But Ameritech’s plan already accomplishes that goal. Once again, there is no need to take Ameritech’s word for it. The Commission need only look to the FCC – and to the CLECs themselves. In the *New York 271 Order*, App. B, ¶17 the FCC found that the 95 percent confidence test proposed by Ameritech here “gives us a reasonable likelihood of detecting variations in performance not due to random chance [Type II errors], with few false conclusions that variations are not due to random chance [Type I errors]” and thus represents “a fair compromise.” AT&T itself has endorsed this methodology before the FCC, acknowledging that a one-tailed test with Type I error held at the 5% level “strikes a reasonable balance” between the need to account for both Type I and Type II errors.<sup>4</sup>

To make matters worse, the CLEC’s method for “balancing” random error creates a competitive imbalance. Under the CLECs’ proposal, equal treatment is not good enough: Ameritech estimates that the CLEC plan would generate approximately \$8 million in remedies per month, even if Ameritech provided perfectly nondiscriminatory service. Thus, to avoid payment of remedies, Ameritech would have to give CLECs *better* treatment than Ameritech gives itself and its retail customers, in order to leave a sufficient “cushion” to survive the CLECs’ statistical test. That kind of tilt in treatment is diametrically opposed to the principles of nondiscrimination that a remedy plan is supposed to foster—and that lay at the heart of the 1996 Act.

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<sup>4</sup> Affidavit of Dr. Colin L. Mallows, Before the Federal Communications Commission, Washington, D.C. 20554, CC Docket No. 98-56, RM-9101, ¶22.

The CLEC Plan Does Not Call For Any Statistical Analysis Where Performance Is Assessed Against A Benchmark, Further Increasing The Likelihood Of Error.

The rate of error under the CLEC plan is even worse for performance measures that are compared to benchmarks. There, the CLECs would not perform statistical analysis *at all*. (Z-Tel's plan makes the same error.)

To illustrate: The benchmark for unbundled loops calls for Ameritech to complete 95% of 2-wire analog installations within 3 days. The benchmark recognizes that some installations will take more than 3 days. The problem, as Ameritech showed in its opening comments (principle number 18, pp. 23-24), is that *performance* is subject to random variation even if the *benchmark* is fixed. Thus, even if Ameritech meets the 95% standard *overall*, it will likely beat 95% for some CLECs in some months but fall slightly short of 95% for other CLECs in other months. Assuming overall performance of exactly 95%, one would expect Ameritech to slightly beat the standard half the time and slightly miss the other half. No one pays Ameritech for beating the standard, so Ameritech should not pay anyone for falling short unless the difference is enough to show a real deficiency in performance, as opposed to random variation.

Thus, the need to address random variation in benchmark measures is generally accepted in the field. For this reason, the New York, Texas, Kansas and Oklahoma plans that have been approved by the FCC all allow for such variation, in contrast to the rigid approach advanced by the CLECs and Z-Tel. The FCC expressly endorsed the need to address variation in benchmark measures in its *New York 271 Order*. There, as here, wholesale performance is assessed by one of two types of measures: (1) benchmark measures (which the FCC described as "proportionate" because they assess "the proportion or percentage of a group of observations that meet some

criterion”), and (2) parity measures, which the FCC called “measured” because they compute averages from observed data. *New York 271 Order*, App. B, ¶5. The FCC agreed that accounting for random variation was appropriate “for measured *and proportionate* [benchmark] measures.” *Id.* ¶ 13.

No one could seriously contend that CLECs should be paid remedies based solely on random chance. But that is exactly what the CLEC plan does, because it performs no statistical analysis on benchmark measures and thus makes no accommodation for random chance. Thus, even if Ameritech meets the benchmark percentage (say, the 95 percent benchmark for unbundled loops) overall on every single measure, it will pay remedies to half the CLECs that participate in the plan, based solely on small random variations. The purpose of this proceeding is to develop a remedy plan, not a lottery plan.

## **2. The CLEC Plan Uses Large-Sample Tests For Small Sample Sizes**

As noted above, Ameritech’s plan uses the modified z-test or standard z-test wherever there are 30 or more transactions tested, with permutation testing for smaller samples. This is consistent with the recognized limitations of the z-test, which the FCC cited in its *New York 271 Order*. As the FCC observed, “Z-tests, including the modified z-test and the standard z-test, are only appropriate if the distribution of the mean (or of the proportion, for proportionate measures) is normal. Even for metrics whose observations are not normally distributed, the mean should be normally distributed if the sample size is large enough, according to the Central Limit Theorem.” *New York 271 Order*, App. B, ¶10. Among statisticians, “[u]sually it is assumed that a sample size of 30 or more is sufficient for it to be appropriate to use the z-test for measured metrics.” *Id.*

The CLEC plan, however, ignores these fundamental limitations. It would apply the modified z-test for *all* statistical tests, even where the z-test is not generally accepted as

appropriate, namely for tests with less than 30 observations. This gap in the CLEC plan is critical. Because Ameritech slices performance data into small categories (by product, geographic location, and CLEC) over half the performance data for the current month comes in samples of less than 30. The gap is also quite surprising: The CLECs were the ones who insisted on the disaggregation of performance data into small measurement categories in the first place. Further, AT&T has asserted in the past that even a sample size of 30 might not be high enough to support the z-test. *New York 271 Order*, App. B. ¶ 10 n.28.

Thus, the CLECs' assertion – which comes without a shred of analysis or support -- that their method will “provide greater power of the statistical test for small sample sizes” (CLEC Comments, at 9, principle no. 23) is misleading. The CLECs are apparently hoping the Commission will confuse the statistical term “power” with the layman’s understanding of the word. In statistical parlance, “power” is simply the probability that disparity is declared when disparity exists. It provides no indication of how often a test will find incorrectly disparity where none exists. For example, a statistical test that simply finds disparity all of the time, regardless of any information or test statistics, would be “powerful” in the way statisticians use the word, but it would also be completely arbitrary and capricious. Thus, the test that the CLECs have proposed may indeed have more “power” in this sense, but not in the sense the Commission is concerned with: the need for accuracy. For small sample sizes, the only thing the CLEC plan increases is the already-unacceptable risk of error.

### **C. Z-Tel’s “Non-statistical” Plan Is A Non-Starter**

Z-Tel acknowledges the problem of random variation, but its proposed solution does not really address the problem at all. Z-Tel understands, for example, that it would be unrealistic to



assess performance against a fixed target (in Z-Tel's example, a standard of 24 hours for repairs) because performance data "vary from event to event." Z-Tel Submission, at 7. But, contrary to *both* of the other plans before the Commission, Z-Tel does not use statistical analysis to measure and address such random variation. Instead, Z-Tel divides the data into "zones" of performance: Zone 0, for transactions that are completed in shorter-than-average time (which Z-Tel assumes will always be 70 percent of all transactions); Zone 2, for the 5 percent that take the longest; and Zone 1, for the transactions in between. The zones are based on retail performance in some unspecified past period. Z-Tel's plan then looks at current wholesale performance for each CLEC to see if it fits into the same zones as past retail performance: *i.e.* to see if 70 percent of that CLEC's transactions were processed in shorter-than-average time (Zone 0), 25 percent within Zone 1, and 5 percent within Zone 2. If a CLEC's zones are less favorable than the past-retail zones, Z-Tel's plan would levy a penalty.

**1. There Is No Basis For Z-Tel's Assumption That Performance Data Will Fit Prescribed Zones.**

Z-Tel's plan is fatally flawed both in its underlying premise and in the way it would be carried out. The problem with Z-Tel's premise is the same one that it purports to solve: that of random variation. Z-Tel's plan assumes that performance data fall into the same neat zones for every carrier, every month, and penalizes the incumbent for deviating from the prescribed pattern. But random variation means that data do *not* observe such rules: It is just as unrealistic to assume that performance data will always follow the same 70-25-5 regime as it would be to assume that performance will always take exactly 24 hours.

By way of illustration, assume that the average time for repairs in the incumbent's retail operations is, as Z-Tel assumes, 24 hours; and that 95 percent are completed within 30 hours.

Under Z-Tel's plan, that means that Zone 0 is from 0-24 hours, Zone 1 is from 24-30 hours, and Zone 2 is anything over 30 hours. Now assume that 94 percent of CLEC repairs are completed within *1 second* (in fact, any number that beats retail performance will do), and that the average repair time is significantly less than 24 hours. No one could seriously accuse the incumbent of discrimination — but Z-Tel's plan would, so long as over 5.5 percent of the CLEC's repairs take even a second more than the 30-hour boundary for Zone 2. If there are only a small number of repairs in total, the number of untimely repairs needed to break that 5.5 percent threshold and assess remedies could be as small as *one* repair that, for whatever reason, took a second more than 30 hours. That would be a Type I error: a test that falsely shows failure even though real performance was nondiscriminatory.

Z-Tel's test, by its very nature, virtually guarantees such errors. Instead of comparing wholesale performance to retail performance, it compares wholesale performance to Z-Tel's *assumptions* about retail performance. Z-Tel provides no scientific basis for its assumption that performance data — particularly small samples of such data — will always fall neatly into the same 70-25-5 patterns. Z-Tel's use of an arbitrary “fudge factor,” which adds 10 percent leeway to the size of the zones, is no improvement; all it does is replace the arbitrary 70-25-5 scheme with an equally arbitrary 67-27.5-5.5 setup. Z-Tel presents no evidence or analysis to show that the additional leeway will reduce error in any meaningful way, and it cannot, because its non-scientific method precludes any scientific analysis of its potential error.

Thus, Z-Tel's assertion (at 7) that its plan “requires no adjustment for Type I or Type II error” is misleading. True, Z-Tel's plan is based on arbitrary assumptions that have no scientific basis, so there is no way to calculate and adjust for Type I or Type II error. But that does not mean such errors will not occur — only that Z-Tel does not care about when or how often.

Typing and proofreading with your eyes closed may prevent you from discovering your mistakes, but it does not mean you won't make any.

How many? As described in the next section, Z-Tel's plan attempts to compare current wholesale performance to retail performance in some undefined past period. The lack of definition, and the fact that past performance is likely to vary from current performance for a host of different reasons (such as weather), means there is no way to assess the rate of error. But to illustrate the *minimum* error of its proposal, if one were to use Z-Tel's assumptions to compare current wholesale and retail performance, we estimate that Z-Tel's plan would yield a Type I error rate of over 25 percent: in other words, even if Ameritech did not discriminate at all, Z-Tel's method would impose remedies over 25 percent of the performance measures.<sup>5</sup>

## **2. There Is No Basis For Z-Tel's Attempt To Compare Present Data To Past Data.**

Z-Tel's methodology compounds the inherent error of its approach. Unlike the Ameritech and CLEC plans, which compare the current month's wholesale performance to the current month's retail performance, Z-Tel compares current wholesale performance to retail performance for some unspecified *past* period. Thus, Z-Tel assumes not only that performance will fit the same Procrustean cubbyholes for every carrier, but also that the pattern will hold over time. Plainly, that assumption is unrealistic, and even Z-Tel recognizes as much when it

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<sup>5</sup> The simulation was conducted assuming that the CLEC and the ILEC underlying data had the same log-normal distribution with a mean of 3.61 days. We simulated CLEC and ILEC performance by taking random draws from the same distribution. Each of the "observed performances" (simulations) were compared to each other to see if the CLEC was found in disparity even when its underlying performance was identical to the ILEC's performance. The 10,000 simulations conducted for a variety of sample sizes (20, 100, and 1,000). In over 2,500 of the 10,000 simulations, there was a finding of disparity generated.

concedes (at 12-13) that some adjustment will be necessary to reflect “seasonality.” But even if one could compute such an adjustment (and Z-Tel offers absolutely no suggestions for doing so), that would only be the tip of the iceberg. A winter like this one, with record snow and bitter cold, will undoubtedly yield different performance results than its predecessors. A host of other circumstances (rain, product and service mix, customer locations, the people doing the work, local factors such as road construction, etc.) also change over time. All of these factors will affect the data – and given that Z-Tel’s plan does not control for them (as a practical matter, no plan based on historical data, as opposed to Ameritech’s plan for using current data, could) it will instead penalize Ameritech for them.

And that apparently is Z-Tel’s intent. By its own admission, Z-Tel is only concerned with *outcomes* (how long performance takes) not with the reasons for those outcomes. Z-Tel Submission, at 7. Thus, Ameritech is penalized for any outcome that does not satisfy Z-Tel’s three-zone scheme, even if Ameritech’s behavior and processes are nondiscriminatory, and even if the source of the problem is the CLEC, or some other factor outside Ameritech’s control. But that is not the goal of the 1996 Act or of a remedy plan. A proper plan is designed to motivate good behavior by detecting and assessing remedies for bad behavior. Punishing Ameritech for factors outside of its control – such as the ebbs and flows of random chance, the harshness of weather, or the passage of time – does not motivate good behavior. The better course is to avoid those outside factors in the first place, the way Ameritech’s plan does: by comparing apples to apples (current performance to current performance) instead of oranges (prior period performance).

**D. Ameritech’s Plan Is The Only One With A Fail-Safe Mechanism.**

As described in the preceding sections, Ameritech's plan is the one that best addresses the risk of random error that all parties agree must be addressed. Perhaps more importantly, Ameritech's plan is the *only* one that provides for the fact that no method of analysis can eliminate all error. As noted above, the FCC has found that Ameritech's tests are conservative because they detect differences that are significant at a *numerical* level without addressing the cause of those differences or their competitive impact. The numerical test may indicate failure, but further analysis and evidence may show that the cause of that failure is the CLEC itself or some other factor outside Ameritech's control. Plainly, if the Commission is to exercise real authority over the remedy plan (the very first principle for an effective plan set forth by the Commission) it should have the authority to set aside remedies if it finds sufficient proof that those remedies are unwarranted. Ameritech's plan gives the Commission that authority; the opposing plans do not.

Ameritech's proposal provides for a waiver of remedies by the Commission that is limited in scope and expedited in procedure. Ameritech Plan, § 7.2. If and only if Ameritech can prove, in that expedited procedure, that a perceived shortfall in performance is attributable to the CLEC (including the extreme case in which a CLEC games the system to generate bogus remedies) or to an Act of God or similar, narrowly-defined circumstances outside Ameritech's control, the Commission can set aside the associated remedy. (By the same token, if a CLEC can prove discrimination even though the statistical test shows none, it can seek relief outside the plan without limitation.) The FCC reviewed this procedure and found it sufficiently narrow and fast to protect any legitimate interest in prompt settlement and payment. *Texas 271 Order*, ¶ 427.

Nevertheless, the opposing plans make no provision for any fail-safe check on their results. The CLECs' plan provides only for a "limited root-cause investigation" that applies only at the request of a CLEC, while Z-Tel's plan provides for investigation only when remedies exceed a hefty 44 percent of Ameritech's revenues. In either case, though, the purpose is not to determine if the remedies calculated by the plan are justified, but to find out if additional penalties should be assessed. CLEC Comments, at 11, Z-Tel Submission at 28. Further, Z-Tel openly admits (at 7) that its plan is concerned with outcomes rather than causes. But if the opposing plans are really as "power[ful]" (CLEC Comments, at 9) or as error-free as their proponents contend, they should have no objection to letting the Commission investigate and evaluate their results in an appropriate case. That the CLECs and Z-Tel oppose any form of relief from erroneous remedies, or any meaningful analysis of *why* performance shortfalls have occurred, shows both (1) that they realize their plans will generate unwarranted remedies (otherwise, they would always win the fail-safe procedure, and there would be nothing to complain about), and (2) that they would rather collect erroneous remedies than compete.

## **II. To Be Meaningful, The Remedy Amount Should Reflect The Impact Of The Performance Measure And The Volume Of Customers Affected.**

A. Just as remedies should only be assessed where poor performance occurs, their amount should be meaningful -- they should reflect the importance of the performance standard they enforce and the impact of the performance "miss." Some performance outcomes (such as the time to install or restore service) are more visible to end users and thus more likely to affect a CLEC at the bottom line -- in other words, a performance "miss" is more likely to result in the loss of a customer. An end user is more likely to notice if his or her loop was installed a day late than if his or her CLEC receives its monthly bill for unbundled loops a day late. Ameritech's proposal recognizes this basic fact, and gives CLECs a higher remedy in the former situation

than in the latter, by using a priority factor in the remedy calculation. The CLEC proposal makes no distinction, and assigns the same high priority factor in all situations. (Z-Tel's remedy calculation is so vague and lacking in detail that it cannot reflect the importance of any performance measure.)

The CLECs respond with a baseless charge, suggesting that Ameritech assigns priorities in an "anti-competitive" manner to favor certain products or entry methods over others. CLEC Comments, at 5, 6. They provide no examples of which products or entry methods are favored or disfavored. That is because there are none: Ameritech treats all products, services and entry methods identically. Wherever a given function (such as the time to install or repair service) applies to more than one product, service or entry method) that function receives the exact same priority for *every* product, service and entry method covered. The priority factors vary only for different *functions*: For example, the average installation interval is always a high priority no matter what is being installed), while the rate of order flow-through (which is one part of the installation process) is always a low priority, regardless of order type.

B. Another facet of a performance measure's meaningfulness is the number of customers involved. Plainly, missing 100 due dates is likely to have a greater impact than missing only one. For those measures where the number of transactions is meaningful, Ameritech's proposal provides for the remedy amount to increase as the number of transactions increases – that is, Ameritech calculates remedies on a "per occurrence" basis. That way, Ameritech focuses its efforts where the CLECs focus theirs – in other words, on the products and services CLECs (and their end users) want and order, and on the CLECs that actively pursue and obtain end users in Indiana.

By contrast, the CLEC proposal does not care about the volume of customers affected – it calculates all remedies on a “per measure” basis. Thus, Ameritech would pay the same (high) penalty for missing a due date on an obscure service that only one CLEC end user ordered, as it would pay for missing many due dates on a burgeoning service that thousands of end users ordered across the state. Similarly, under the CLEC proposal Ameritech would pay the same penalty to a CLEC that has low volume because it has no interest in a product or service (or in doing any significant business in Indiana) as it would pay to a CLEC that is aggressively signing up end users and placing a large volume of orders. If the goal is increased competition in Indiana, the CLEC proposal is not the way to get there. Ignoring volume creates an inappropriate incentive by rewarding CLECs who do little business instead of those who do more.

The CLEC plan compounds that undesirable incentive, literally, by applying a “market penetration” multiplier to each remedy. The multiplier (and thus, the remedy amount) increases as the volume of CLEC business decreases for the applicable product or service measured. The amount of the multiplier is arbitrary, but that is only the beginning. The asserted purpose of the multiplier is to penalize Ameritech for the lack of “market penetration” by CLECs. However, that is not the way it would work in practice. The CLEC factor expressly excludes, and thus ignores, important types of market penetration: use of cable, special access facilities, or their own facilities. That creates yet another improper incentive: CLECs that enter by those methods (most notably, AT&T and Sprint), instead of by unbundled access or resale, can have their cake and eat it, too. They can enter the local market to their heart’s content, while still saddling their competitor (Ameritech) with undeserved penalties – payable, ironically, on the basis of an asserted lack of market penetration. Further, the multiplier leads to absurd results: Ameritech



would still pay penalties for “lack of market penetration” even if AT&T took over 99% of the market by using cable.

C. The method Z-Tel proposes to compute remedy amounts makes its error-plagued “zone” scheme even worse. Z-Tel does not develop or propose any particular remedy amount. But it suggests that the Commission multiply whatever remedy amount it comes up with by a factor to reflect the probability of detection. According to Z-Tel, remedy plans are like parking tickets: a car owner that wants to park in a no-parking zone will do so unless the remedy amount, discounted by the probability he or she will be caught, exceeds the profits of the violation. According to Z-Tel (at 19), the probability of being caught will be something less than one, because “a perfect record of detection and punishment . . . is an unrealistic expectation.” Thus, Z-Tel contends the remedy amount should be inflated to compensate for the discount.

There are any number of problems with Z-Tel’s analogy and its conclusion. For starters, Z-Tel’s argument betrays the fact that its plan is nowhere near perfect in detecting poor performance. After all, saying that the probability of detecting a violation is less than one, even under the Z-Tel plan, is the same as saying that plan has some risk of Type II error (the risk that a violation will occur but not be detected by a given test). Thus, contrary to Z-Tel’s assertion (at 7) that its plan “requires no adjustment for Type I or Type II error,” an adjustment for Type II error *is* required to compute the remedy amount. The problem, as described above, is that Z-Tel’s plan has no basis in statistical science, so there is no logical way to determine what the Type II error (or the corresponding remedy multiplier) should be.

Second, while Z-Tel tries to increase remedies to compensate for Type II error, it makes no effort to compensate for errors that go the other way: Type I errors, where no violation occurs but the test assesses a remedy in error. As described above, Z-Tel’s plan will likely

assess remedies based on random variation even where no discrimination has occurred; to use Z-Tel's parking analogy, there is a risk that a car owner will receive a parking ticket even if he or she parks legally all the time. The reason Z-Tel ignores this fact is simple: Logically, it would require a reduction in the remedy amount, and that would not serve Z-Tel's interests.

D. Ameritech's liability under its remedy plan would be limited to a "cap" amount based on net return – a natural foundation, given that any theoretical incentive for anti-competitive behavior would be founded on a desire to maintain or inflate net return. The overall cap amount for this year is estimated at \$125.65 million – clearly, no small chunk of change. The use of a cap, and the method for calculating its amount, are consistent with the Texas plan that Ameritech used as a model. The FCC approved the use of such caps generally in its *New York 271 Order* (§ 435), and it has approved the specific calculation proposed by Ameritech here (*Texas 271 Order*, § 424).

In its opening comments, Ameritech demonstrated that the cap is not absolute, because the remedies under the plan do not preclude CLECs, state commissions, and the FCC from imposing additional remedies (such as denial or suspension of long-distance entry). Z-Tel contends (at 28) that the cap approved for New York was inadequate, because the FCC and New York commissions imposed additional fines on Verizon (over and above those assessed under Verizon's remedy plan) after Verizon received long-distance approval. To the contrary, the FCC's actions demonstrate the point the FCC made in its *New York 271 Order*, and that Ameritech has reiterated here: that a remedy plan is not the only redress for poor performance, and that the amounts proposed by Ameritech here, considered in the overall context of all available remedies, are more than meaningful enough to encourage nondiscriminatory behavior.

### **III. Ameritech's Plan Provides A Reasonable And Practical Structure For Testing Performance.**

A remedy plan should be practical, or in the FCC's words, it should have a "reasonable structure" and it should be "a self-executing mechanism" (*New York 271 Order*, ¶ 433) -- not just an abstract model or collection of theories and ideas, but a complete document that people can work with and understand on an everyday basis. Ameritech's plan is a simple sequence of steps that uses basic math and standard statistical methods. The factors used in the plan are whole numbers that are defined and laid out in simple tables. The statistical methods (namely, the modified z-test and permutation tests) have already been approved by state Commissions and the FCC and United States DOJ, and can be applied with standard computer software. Indeed, Ameritech's plan is not just practical to implement -- it *has* been implemented and used in Texas, Illinois, Ohio, Kansas, and Oklahoma. Further, all thirteen SBC operating companies apply the nearly identical remedy plan at the federal level to comply with the FCC's conditions for approving the SBC-Ameritech merger. That experience can be carried over here.

In stark contrast, while both the opposing plans tout their simplicity, they create a series of new tests that are quite different from the methods previously endorsed by commissions and many CLECs themselves. They create thousands of new "multipliers" and "values." Some are not defined or explained at all; others are defined but would require thousands of separate calculations per month. The result is needless complexity and impracticality, demonstrated by the facts that neither proposal has ever been put to commercial use.<sup>6</sup>

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<sup>6</sup> In other states, Ameritech has calculated rough estimates of the CLEC plan remedies, but had to make over 100 assumptions to fill in the blanks of the CLEC plan. The Z-TEL plan has not even been presented in any of the Ameritech states.

A. The CLECs' "balancing" test requires statistical analysis of all 3,000-plus measurement categories. After creating work, though, the CLEC plan does not provide adequate instructions for doing it. Key factors that appear in the CLEC equations are not defined: for example, the term "lambda" is required to perform the calculation at pages 25-29, but it could be anywhere from 1 to infinity. An additional CLEC document, "Balancing the Type I and Type II Error Probabilities of the Modified Z Test Statistic," indicates that typically "lambda" would be defined as 1. This additional document, however, is never referenced in the CLEC proposal and it is not clear whether this additional document is part of the actual CLEC proposal or whether it should be used. This is an important question because the two documents are contradictory. The CLEC proposal says that "delta", the scaling factor for the alternative hypothesis, should always be set equal to 0.25. However, the additional document says that this scaling factor should depend on "epsilon" and "phi" in some cases. These two terms are not listed in the CLEC remedy proposal. Furthermore, no values are suggested for "epsilon" and "phi" in the additional document. Whatever the values of "epsilon" and "phi", it is clear that they will typically not produce results consistent with using "delta" = 0.25, thus creating the confusing contradiction in the CLEC remedy plan.

Other CLEC variables are defined, but impractical to determine. One of the most important elements of statistical analysis is the "critical" value: a score that tells you how large a difference between reported performance and standard would be statistically significant. Under Ameritech's proposal (which uses the modified z-test), the critical value is a function of the number of performance measures, a single number that remains consistent from measure to measure, and it is laid out in a short table (straddling pages 11-12 of the plan description). The CLEC test calculates a critical value as a complex function of two numbers -- the number of

any event, Z-Tel's plan is incapable of implementation, because it does not say *which* past period is to be used in the test and it provides no guidance for finding out.

Further, Z-Tel recognizes that some adjustment for "seasonality" would be necessary given its reliance on past data. But once again, that adjustment is left to imagination. Further, the plan fails to even recognize, much less define, the host of *other* adjustments (rain, traffic patterns, market evolution) that would be necessary to make past data even roughly comparable to current operations.

Next, Z-Tel bases remedies on two factors,  $F$  and  $f$ , but it does not give numbers for either. Instead, it provides a formula that states, at a conceptual level, how one might come up with an amount, but leaves out one of the elements of that formula, namely the term  $\pi$  (the "annual profit protected by the act of discrimination"). But that is the hardest part of the task. Clearly, each different performance measure would have a different impact on the value of  $\pi$ , further, we would expect  $\pi$  to differ by geography and customer and time period – and we would expect the various parties to this proceeding to come up with different values. It would be infeasible to expect the parties and the Commission to determine all the different values of this variable.

Similarly, Z-Tel asserts that the remedy amount should be increased to reflect customers that are "indirectly" affected by a performance failure. There is no analysis to explain how that should be done.

A plan that omits critical steps, and "important" factors, is neither reasonable nor self-executing. It cannot be executed at all. Computing thousands of complex factors takes time and delays payment; computing subjective factors, and using guesswork instead of guidance to fill in the blanks, inevitably leads to disputes and delays closure. If the opposing plans were recipes for

cookies, they would be missing flour, eggs, and chocolate chips. If the Commission were to approve them, it would have to open a whole new docket just to figure out how to carry them out.

C. The ultimate confirmation of the practicality of Ameritech's proposal, and the complexity of the CLEC proposal, is real experience. Ameritech's plan is based on the remedy plan used by Southwestern Bell in Texas. People work with that plan and pay remedy dollars under it in the real world – not only in Texas but also in Ameritech states (Illinois and Ohio) and in Southwestern Bell states like Kansas and Oklahoma. And Ameritech, along with the other twelve SBC operating companies, began paying remedies under the plan at the federal level, in compliance with the FCC merger conditions. The FCC and five state commissions have found the remedy plan proposed by Ameritech here to be reasonable.

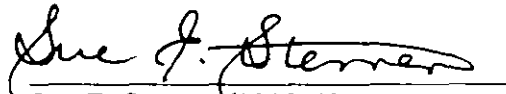
By contrast, the opposing proposals have never been tested, never been approved, and never been used. There is no body of practical experience – as opposed to the self-serving assertions of the plans' authors – to show that real people can make the CLEC plan work in the real world.

D. The CLECs criticize Ameritech's proposal for implementing its plan via a form amendment to interconnection agreements. CLEC Comments, at 10. But the remedy plan is, after all, intended to enforce obligations created by the 1996 Act. It makes perfect sense to incorporate that plan into interconnection agreements, the vehicle the Act itself provides for implementing its requirements. The form amendment is already drafted and before the Commission; once the plan is approved, the Commission's review and approval of each individual amendment should be a painless and swift formality.

requires Ameritech to provide CLECs with superior service. The Eighth Circuit has invalidated such "superior quality" requirements *twice*, as inconsistent with the nondiscrimination provisions of the 1996 Act. *Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 813 (8th Cir. 1997) ("The fact that interconnection and unbundled access must be provided on rates, terms, and conditions that are nondiscriminatory merely prevents an incumbent LEC from arbitrarily treating some of its competing carriers differently than others; it does not mandate that incumbent LECs cater to every desire of every requesting carrier"), *aff'd in part and rev'd in part on other grounds sub nom. AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999); *Iowa Utils. Bd. v. FCC*, 2000 WL 979117, at \*11 (8th Cir., July 18, 2000) ("Nothing in the statute requires [an incumbent LEC] to provide superior quality interconnection to its competitors").

The CLEC proposal also does not help Ameritech's retail customers. Given that the CLEC's penalty scheme applies only to CLEC customers, it directs Ameritech to allocate resources to CLEC customers – at the expense of its own retail customers.

Respectfully Submitted,

A handwritten signature in cursive script, reading "Sue E. Stemen". The signature is written in dark ink and is positioned above a horizontal line.

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## CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served electronically upon the following this 8<sup>th</sup> day of March, 2001.

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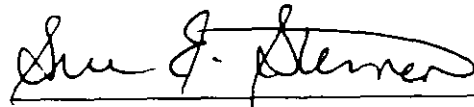
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